

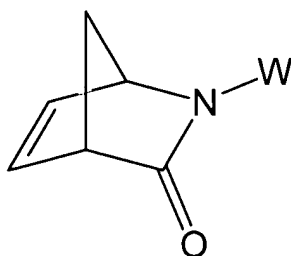
REMARKS

Reconsideration and allowance are respectfully requested. Claims 1-5 and 16-22 are pending and at issue.

Claims 1-5 have been rejected under 35 U.S.C. §102(b) as anticipated by Katagiri *et al.*, *Chem. Pharm. Bull.*, 39(5):1112-1122 (1991), or Taylor *et al.*, *Tetrahedron: Asymmetry*, 4(6):1117-1128 (1993).

Katagiri *et al.* and Taylor *et al.* both disclose processes for preparing 1-amino-4-(hydroxymethyl)-2-cyclopentene (an aminoalcohol) from 2-azabicyclo[2.2.1]hept-5-en-3-one (hereinafter "the Vince lactam"). A comparison of the process of the present invention and the processes described by Katagiri *et al.* and Taylor *et al.* is attached as Exhibit A.

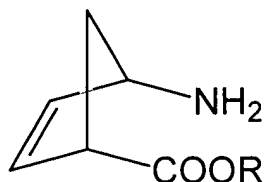
In the October 29, 2001 Advisory Action, the Examiner asserted that "the claims encompass producing an intermediate as shown by the references of record." In the processes described by Katagiri *et al.* and Taylor *et al.*, an electron withdrawing group W is first attached to the nitrogen atom of the Vince lactam to form an intermediate compound of the formula¹:



¹ In the case of Taylor *et al.*, W is -CO₂tBu.

See the N-substituted Vince lactam in Exhibit A; Chart 6 on page 1114 of Katagiri *et al.*; and page 1123 of Taylor *et al.*

In contrast, the process of the presently claimed invention involves reducing the Vince lactam with a metal hydride. As discussed at page 5, lines 31-39, of the instant specification, an amino acid ester intermediate may be formed if the reaction is carried out in the presence of an alcohol. Such an amino acid ester would have the formula:



Neither Katagiri *et al.* nor Taylor *et al.* disclose or suggest forming an amino acid ester intermediate in a process for preparing an aminoalcohol from a Vince lactam. The intermediate formed in Katagiri *et al.* and Taylor *et al.* discussed above does not contain an amino group (-NH_2). See the definition of "amino" attached as Exhibit B.

Additionally, neither Katagiri *et al.* nor Taylor *et al.* disclose or suggest reducing a Vince lactam with a metal hydride to form an aminoalcohol.

For these reasons, Katagiri *et al.* and Taylor *et al.* do not anticipate claims 1-5. Accordingly, applicants respectfully request withdrawal of this rejection.

Claims 1-5 and 16-22 have been rejected under 35 U.S.C. §103(a) as obvious over Katagiri *et al.* or Taylor *et al.* in view of Wieczorek, U.S. Patent No. 5,847,201. Wieczorek

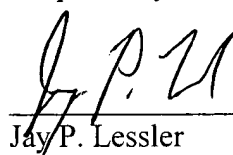
allegedly teaches that lithium borohydride and sodium cyanoborohydride can be used as reducing agents in the preparation of aminoalcohols.

The aforementioned arguments also apply to this rejection.

Accordingly, applicants respectfully request withdrawal of this rejection.

It is believed, for the foregoing reasons, that the claims warrant allowance, and such action is earnestly solicited.

Respectfully submitted,

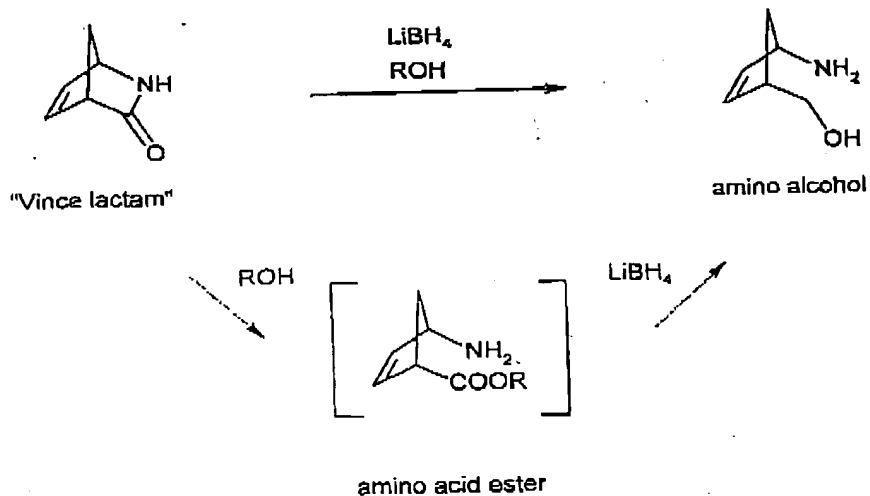


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Present Invention

Process described by Katagiri et al. and Taylor et al.:

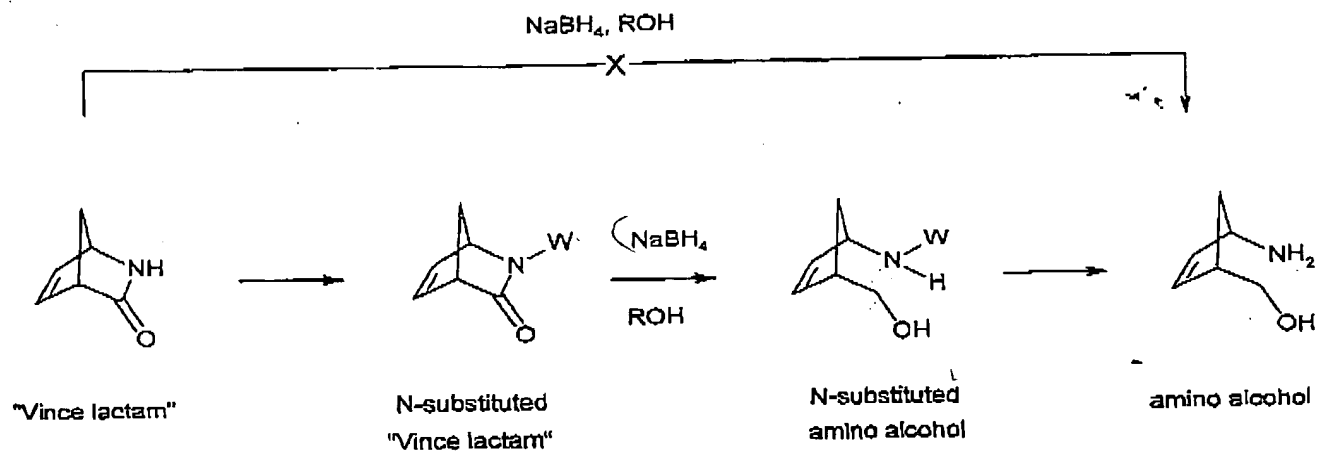


Exhibit A

THE PENGUIN DICTIONARY OF CHEMISTRY

Edited by D. W. A. SHARP, M.A., PH.D.,
C.CHEM., F.R.S.C., F.R.S.E.

Second Edition

Exhibit B



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PENGUIN BOOKS

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An abridged edition of *Miall's Dictionary of Chemistry 5th Edition*,
edited by Professor D. W. A. Sharp, first published by Longman Group Ltd, 1981

First published in Great Britain by Penguin Books 1983

Second Edition 1990

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28 amino-

nitriles, ketoximes and amides, or by treating amides with NaOBr. Secondary amines are obtained by reducing Schiff's bases. A general preparation of amines is from potassium phthalimide and a halogen compound, with subsequent hydrolysis of the product. The aliphatic amines are strong bases; the lower members are soluble in water and are stronger bases than ammonia; they have ammoniacal or fishy odours. The higher members are odourless solids. Aromatic amines are not such strong bases. They are not generally soluble in water, and have characteristic odours. All types form crystalline salts with acids; adducts with SnCl_4 and HgCl_2 and weak complexes with other metal halides. The picrates and picrolonates are crystalline, rather insoluble salts used for the separation and identification of amines. With nitrous acid, primary aliphatic amines give alcohols. Aromatic amines give diazonium salts in the cold, but these decompose to phenols if the reaction is carried out at higher temperatures. Secondary amines of all types give nitrosamines. Schiff's bases, or azomethines, are formed by the action of aldehydes on primary or secondary amines. All types except tertiary amines give ethanoyl (acetyl) compounds with ethanoyl chloride or anhydride. These are usually crystalline, sparingly soluble solids. These amines also yield sulphonamides with aromatic sulphonyl chlorides. Primary amines react with chloroform and potassium hydroxide to give isocyanides, or carbylamines. Primary and secondary amines yield derivatives of thiocarbamic acid with alcoholic carbon disulphide, while aromatic amines give substituted thioureas. The aromatic amines are of great importance as dyestuff intermediates.

amino- A compound containing an amino group ($-\text{NH}_2$) joined directly to a carbon atom. Formerly the prefix amido was also used but this is now usually restricted to compounds containing the amide group ($-\text{CO}\cdot\text{NH}_2$).

aminoacetal, $\text{C}_6\text{H}_5\text{NO}_2$, $\text{H}_2\text{N}\cdot\text{CH}_2\cdot\text{CH}(\text{OC}_2\text{H}_5)_2$. Colourless oily liquid with an ammoniacal odour, b.p. 172–174°C. Prepared by the action of ammonia on chloroacetal, $\text{ClCH}_2\cdot\text{CH}(\text{OEt})_2$. Hydrochloric acid converts it to aminoacetaldehyde. Condensation with aromatic aldehydes gives isoquinoline derivatives.

aminoacetic acid See glycine.

amino-acids A large class of organic compounds containing both the carboxyl, COOH , and the amino, NH_2 , group, e.g. glycine, $\text{H}_2\text{N}\cdot\text{CH}_2\cdot\text{COOH}$. Their chief importance lies in the fact that many proteins are built up

entirely of amino-acid groupings by condensation between the NH_2 and COOH groups, all the amino-acids in these proteins being α -amino-acids, with the amino group attached to the same carbon atom as the carboxyl group and with the same L-configuration of asymmetric groups about the α -carbon atom. The following 23 amino-acids are found in very variable proportions as constituents of most proteins:

Ala	alanine
Arg	arginine
Asp(NH_2)	} asparagine
or	
Asn	} aspartic acid
Asp	
CySH	
CyS	
Glu	
Glu(NH_2)	} glutamine
or	
Gln	} glycine
Gly	
His	histidine
HyLys	hydroxylysine
Hypro	hydroxyproline
Ileu	isoleucine
Leu	leucine
Lys	lysine
Met	methionine
Phe	phenylalanine
Pro	proline
Ser	serine
Thr	threonine
Try	tryptophan
Tyr	tyrosine
Val	valine

In representations of peptides the shortened form is used and the amino-acid first listed has the free amino group.

Certain other amino-acids occur in a few proteins, and others, not necessarily α - or L-amino-acids, are found naturally in the free state or as constituents of peptides.

The amino-acids are colourless, crystalline substances which melt with decomposition. They are mostly soluble in water and insoluble in alcohol.

As constituents of proteins the amino-acids are important constituents of the food of animals. Certain amino-acids can be made in the body from ammonia and non-nitrogenous sources; others can be made from other amino-acids, e.g. tyrosine from phenylalanine, cystine from methionine, but many are essential ingredients of the diet. The list of